



UNITED STATES PATENT AND TRADEMARK OFFICE

elo

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,292	01/18/2000	Neil Kent McDonald	9D-HR-19273-McDonald	9518

7590 01/15/2004

John S. Beulick
Armstrong Teasdale LLP
One Metropolitan Square, Suite 2600
St. Louis, MO 63102

EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 01/15/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,292

Applicant(s)

MCDONALD ET AL.

Examiner

Tho v Duong

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6-20 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/23/2003 have been fully considered but they are not persuasive. Applicant's argument that the prior arts teach away from the present invention and disclose no motivation to combine to teach of forming a tube and wire member into a spiral, has been very carefully considered but is not deemed to be persuasive. Reference to Heuer discloses substantially all of applicant's claimed invention except for the wire member. In Heuer's refrigerator condenser (10), the need for air flowing through the fin sheet (1) of the condenser (10) is satisfying by having louvered openings (19). However, Kawabata has disclose (figure 16 and column 3, line 65-column 4, line 2) a heat exchanger that has a simplified structure of fin sheet (11) that allow air flowing through the fin sheet (11) wherein the fin sheet is constructed of wiring members so that air is allowed to flow through the fin sheet without forming any louvered openings. Therefore, the motivation for the teaching of having a wiring member is clearly disclosed in the prior arts. Furthermore, Applicant argues that the prior arts fail to disclose a step of mounting a rotatable fan blade assembly at the second end of the longitudinal passageway, and rather reference to Heuer discloses only a fluid impeller (28) disposed within a central openings. The applicant's argument has been very carefully considered but is not deemed to be persuasive because reference to Heuer discloses (figure 5) the fan blades assembly includes blades (31) which is mounted so that the fan blades (31) is located at the top end of the longitudinal passage (11) to draw air into the passage (11). As regarding applicant's argument about the prior arts fail to disclose the preamble of claim 7, which describes a refrigerator condenser, reference to Heuer discloses (column 4, lines 40-45) that the heat exchanger (10) is a

Art Unit: 3743

condenser used in a conventional refrigerator system. Furthermore, in response to applicant's arguments, the recitation that refrigerator condenser has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa V. Robie*, 88 USPQ 478 (CCPA 1951)

Applicant's arguments with respect to claims 14-20 have been considered but are moot in view of the new ground(s) of rejection.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the claimed subject matter of "external to said passage" in claim 14 is not provided in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.A. Heuer (US 3,173,479) in view of Kawabata et al. (US 5,211,219). Heuer discloses (figures 2-5) an apparatus of a refrigerator condenser comprising a spiraled tube and fin member (10) forming

Art Unit: 3743

by bending the flat tube and fin member into a spiral including first and second ends (top and bottom) and a longitudinal asymmetrically rounded passageway (11'); the tube and fin member comprising an inner edge (13), an outer edge (12) and a longitudinal axis; the inner edge (13) and outer edge (12) substantially parallel to the longitudinal axis wherein the outer edge is located farther than the inner edge from the longitudinal axis; the tube and fin member (10) comprises two wraps (12,13); a baffle (26) mounted at the bottom end of the tube and fin member (10) to prevent air from entering the passage through the bottom end; a fan blade (31) is mounted so that the fan blade is located at the top end of the passageway to draw air into the passageway (11) substantially perpendicular to an outer surface of the tube and fin member (10). Heuer further discloses (figure 3) that the spiraled tube and fin member (10) has a plurality of U-shaped segment attached to the fin member being bent about an axis parallel to the fin member. Heuer does not disclose that the fin member is wire. Kawabata discloses (figures 3, 10,11,16 and column 3, line 65-column 4, line 2) a flat tube and fin member (11) that is bendable to form a desired shape to use in a refrigerator system, wherein the fin member is made of wires so that air can pass through the member to increase the heat transfer surface area of the flat tube and fin member with air. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Kawabata's teaching in Heuer's condenser to let air pass through the fin member to increase the heat transfer area of the tube and fin member with air. The combination device of Heuer and Kawabata is considered to read on the claimed apparatus. Therefore, it is believed that the combination device of Heuer and Kawabata is capable of being formed or used from the same method as claimed.

Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.A. Heuer (US 3,173,479) in view of Kawabata et al. (US 5,211,219) and Simmons et al. (US 3,865,517).

Heuer discloses (figures 2-5) an apparatus of a refrigerator condenser comprising a spiraled tube and fin member (10) including first and second ends (top and bottom) and a longitudinal asymmetrically rounded passageway (11'); the tube and fin member comprising an inner edge (13), an outer edge (12) and a longitudinal axis; the inner edge (13) and outer edge (12) substantially parallel to the longitudinal axis wherein the outer edge is located farther than the inner edge from the longitudinal axis; the tube and fin member (10) comprises two wraps (12,13); a baffle (26) mounted at the bottom end of the tube and fin member (10) to prevent air from entering the passage through the bottom end. Heuer does not disclose that the fin member is wire. Kawabata discloses (figures 3, 10,11,16 and column 3, line 65-column 4, line 2) a flat tube and fin member (11) that is bendable to form a desired shape to use in a refrigerator system, wherein the fin member is made of wires so that air can pass through the member to increase the heat transfer surface area of the flat tube and fin member with air. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Kawabata's teaching in Heuer's condenser to let air pass through the fin members to increase the heat transfer area of the tube and fin member. Heuer further does not disclose that the fan blade assembly mounted at an end of the condenser and being external to a passage formed by the condenser. Simmons discloses (figure 2 and column 3, lines 1-13) a refrigeration condenser unit that has a fan blade assembly (23) mounted at an end of a condenser coil (3) and being external to an air passageway formed within the condenser coil to maximize the flow of air as the fan rotates and to avoid any impedance of airflow to the fan since the motor of the fan is not located

Art Unit: 3743

within the passageway and on the discharge side of the fan. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Simmons's teaching in the combination device of Heuer and Kawabata to maximize the flow of air as the fan rotates and to avoid any impedance of airflow to the fan since the motor of the fan is not located within the air passageway and on the discharged side of the fan.

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kessler et al. (US 4,723,419) discloses an outdoor heat exchanger section that has fan assembly located outside of a heat exchanger core.

Kim (US 5,592,829) discloses a refrigerator provided with a condenser having an improved cooling efficiency.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

Art Unit: 3743

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

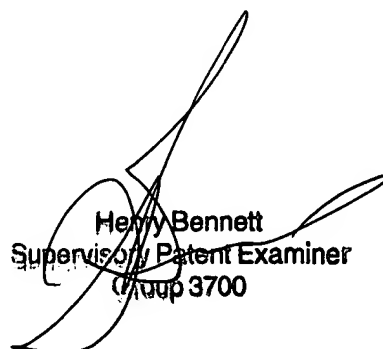
Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Tho Duong

December 29, 2003


Henry Bennett
Supervisory Patent Examiner
Group 3700